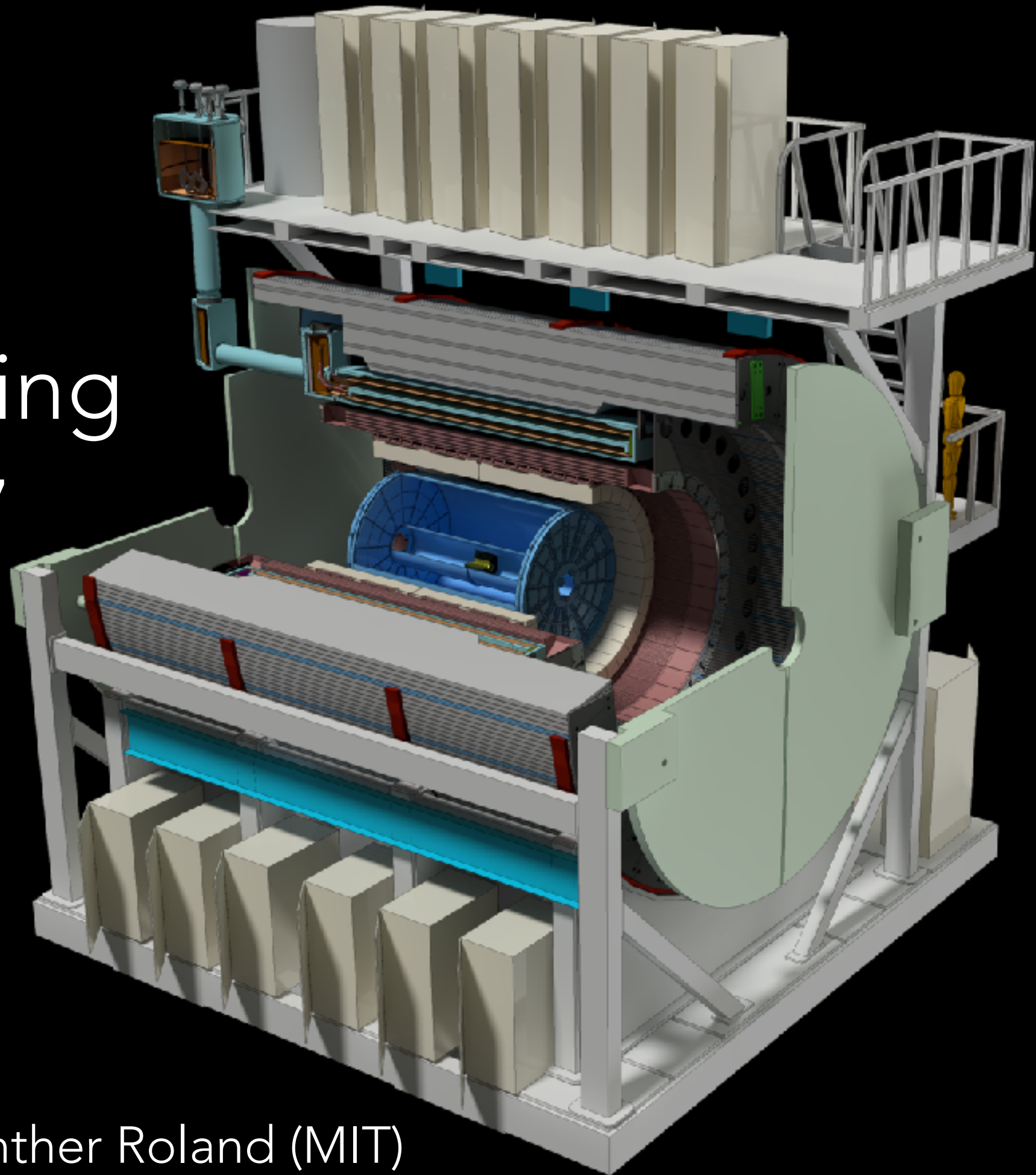


sPHENIX
general meeting
March 3, 2017



Dave Morrison (BNL), Gunther Roland (MIT)




**KEEP
CALM
AND
VOLUNTEER**

(to take minutes for today's meeting)

Plan for today

Friday, 3 March 2017

| | | |
|---------------|--|---|
| 12:00 - 12:20 | sPHENIX News 20' Speakers: Dr. David Morrison (BNL), Prof. Gunther Roland (MIT) | ▼ |
| 12:20 - 12:40 | Project news 20' Speaker: Edward O'Brien (BNL) | ▼ |
| 12:40 - 13:00 | Discussion: MVTX proposal and physics goals 20' Speaker: Dr. Ming Liu (Los Alamos) | ▼ |
| 13:00 - 13:20 | Discussion: "Moderate forward upgrade": goals, approach, ideas 20' Speakers: Dr. Nils Feege (Stony Brook University), Prof. Christine Aidala (Michigan) | ▼ |
| 13:20 - 13:40 | Luminosity and rate expectations 20' Speaker: Prof. James Nagle (University of Colorado) Material: Slides  | ▼ |

Discussions with the ALD on Feb 22, 2017

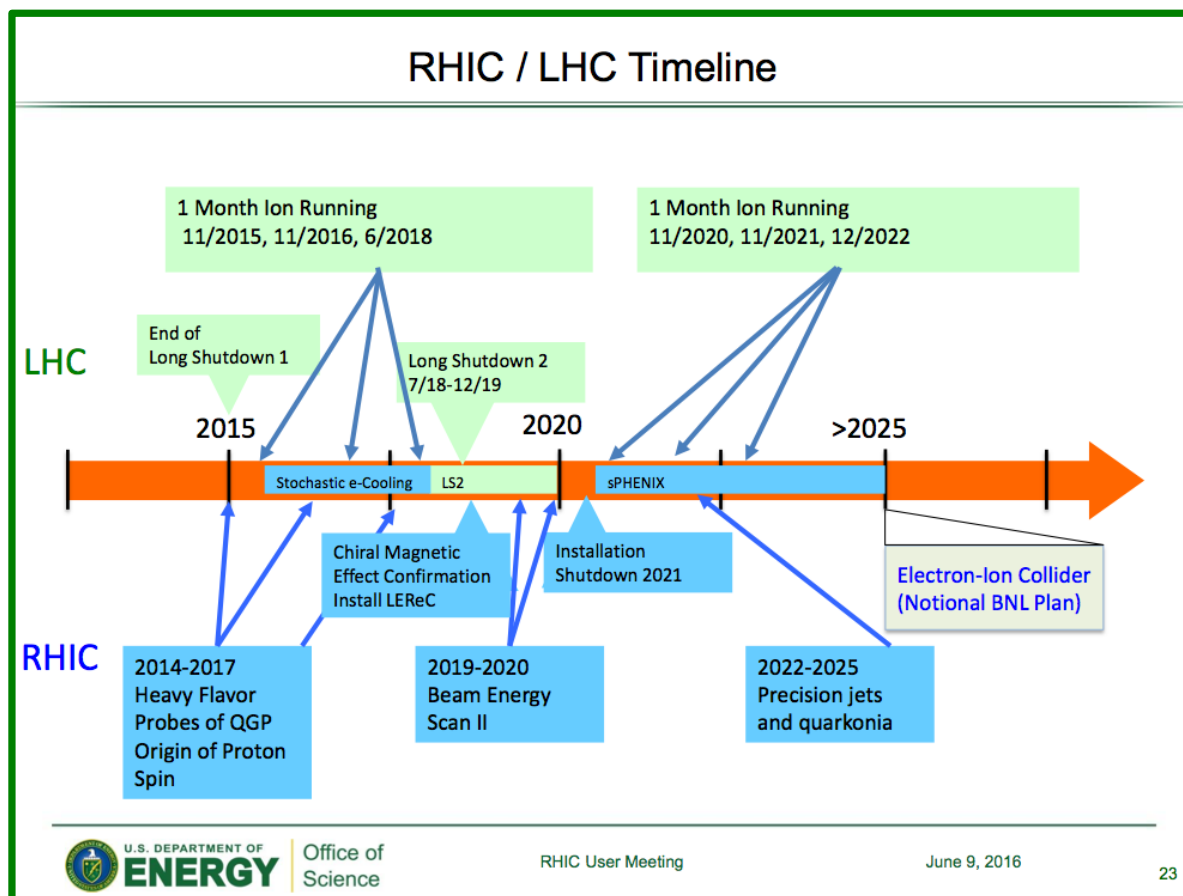


- Main topics were feedback from budget briefing and MAPS strategy
- sPHENIX should plan for multi-year program
- Separating MAPS from baseline detector
 - Minimize risk for CD-1
 - Base MAPS physics case on broad HF program, developments since NP LRP
 - Need simulations in support of MAPS-less baseline and in support of full detector

Executive Council meeting on February 23

sPHENIX, DOE and a MAPS vertex detector

- Even after CD-0, some of us still suffer occasional bouts of anxiety: “How can we plan for this or that if we only run for one or two years?”

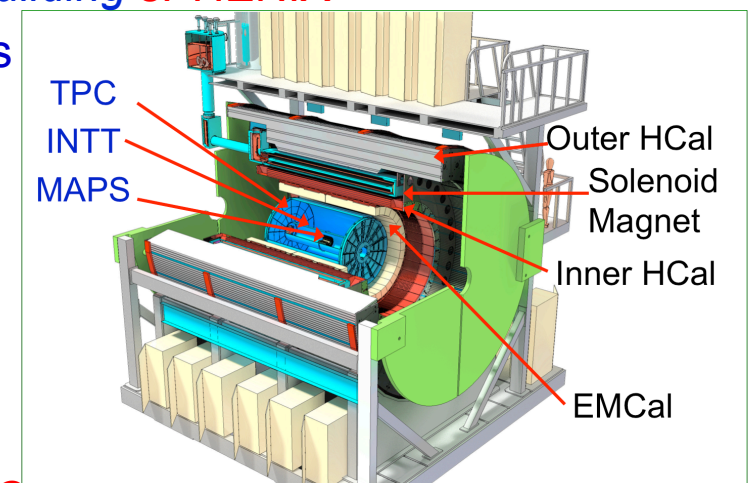


Also On The First Day

- Dr. T. Hallman stated U.S. DOE Nuclear Physics “is committed to building sPHENIX”

- sPHENIX provides full jet and HF capability in order to:

- ▶ Probe the sQGP with the highest resolution possible at RHIC
- ▶ Perform vital comparisons to same probes at LHC



[M. Connors: Design, status and schedule of the sPHENIX experiment at RHIC](#)

sPHENIX CD-0 “Mission-need” statement

**Mission Need Statement
for an Upgrade to the
Pioneering High Energy Nuclear Interaction
eXperiment (PHENIX)
known as Super PHENIX (sPHENIX)
as a Major Item of Equipment
Non-Major Systems Acquisition**

Office of Nuclear Physics
Office of Science
U.S. Department of Energy

Date Approved:
September 2016

1

Mission Need Statement
for an Upgrade to the
Pioneering High Energy Nuclear Interaction eXperiment (PHENIX)
known as Super PHENIX (sPHENIX)
as a Major Item of Equipment at the
Brookhaven National Laboratory

Submitted by:

Jamie Sowinski Date: 8/15/16
Jamie Sowinski, Acting Program Manager for Heavy Ion Nuclear Physics
Office of Nuclear Physics, Office of Science, DOE

Elizabeth Bartosz Date: 8/17/16
Elizabeth Bartosz, Program Manager for Nuclear Physics Instrumentation
Office of Nuclear Physics, Office of Science, DOE

Jehanne Gillo Date: 8/17/16
Jehanne Gillo, Director, Facilities and Project Management Division
Office of Nuclear Physics, Office of Science, DOE

Timothy J. Hallinan Date: 8/17/16
Timothy J. Hallinan, Associate Director
Office of Science for Nuclear Physics, DOE

Concurrence:

Stephen W. Meador Date: 8/19/16
Stephen W. Meador, Director
Office of Project Assessment, Office of Science, DOE

Patricia M. Dehmer Date: 9/13/2016
Patricia M. Dehmer, Deputy Director for Science Programs
Office of Science, DOE

Approval:

2

Approval:

Critical Decision 0, Approve of Mission Need
Upgrade to the Pioneering High Energy Nuclear Interaction eXperiment (PHENIX)
known as Super PHENIX (sPHENIX)

Recommendations:

The undersigned “Do Recommend” (Yes) or “Do Not Recommend” (No) approval of CD-0, for the sPHENIX Project.

Shirley Hill 9-27-2016 Yes ☒ No ☐
ESAAB Secretariat, Office of Project Assessment Date

Nathan Klausig Yes ☒ No ☐
Representative, Office of Budget Date

John M. Blair 9-21-16 Yes ☒ No ☐
Representative, Safety and Security Policy (ESAAB) Date

Earl Hight 9/21/16 Yes ☒ No ☐
Representative, Safety and Security Policy (Security) Date

David Miller 9/21/16 Yes ☒ No ☐
Representative, Operations Program Management
(Facilities and Infrastructure) Date

Ed L. Smith 9/27/16 Yes ☒ No ☐
Representative, Non-Proponent SC Program Office Date

Michael J. ... 9/27/16 Yes ☒ No ☐
Representative, Non-Proponent Federal Project Director Date

Approval:

Based on the information presented in this approval document and at ESAAB Equivalent Review,
CD-0, Approve Mission Need, for the sPHENIX is approved.

Timothy J. Hallinan 9/27/2016
Timothy J. Hallinan, Project Management Executive
Associate Director of Science For Nuclear Physics
Office of Science, DOE

8. Goals for Limitations on Recurring or Operating Costs

The cost for operating the detector will be included within the annual RHIC operating budget which will be entirely funded by NP. The operating cost is estimated to be about \$10 million FY 2016 annually, for about five years; this could be extended if new physics is found which justifies further running.

4

Planning for multi-year program

- At our instigation, Berndt Mueller has requested luminosity projections through at least 2025 from C-AD (current projections go through 2023). Will let collaboration know when those are available.
- Later in this meeting, Jamie Nagle will discuss overview of projections based on currently available C-AD numbers

For the PAC meeting June 15-16,2017

Dear RHIC Spokespersons:

I am writing to request that you submit the annual Beam Use Request for the RHIC runs in 2018 and 2019 and related material.

We current anticipate, assuming favorable budget conditions, runs of 15 cryo-weeks (including 2 weeks for the Coherent electron Cooling test) in FY2018 and 24 cryo-weeks each in FY2019 and FY2020. Less favorable, but still likely, budget conditions would only allow for a combined run of 20 cryo-weeks in FY2019/FY2020. The beam use request should consider both possibilities.

The submissions are due by May 15, 2017. Since PHENIX has ended data taking and sPHENIX has not yet started construction, I expect to receive a BUR from STAR only.

I also ask STAR and PHENIX to report on the status of analyses of data from previous RHIC runs, especially the runs in 2014-16.

In addition, I invite the STAR and sPHENIX Collaborations to present letters of intent for proposals of modest forward upgrades to their detectors for data taking after 2021 for consideration by the PAC.

The dates for this year's RHIC PAC meeting are June 15-16, 2017. A list of current PAC members is attached for your information.

Thanks in advance,

Berndt

PAC meeting

- We should plan to present state of our simulations, test beam results, etc!
- Will start discussion about “modest forward upgrades” later in this meeting.

Upcoming collaboration meeting(s)

- 54 participants in poll – thanks!
- Favored dates are Tue-Wed, June 13-14
- PAC meeting is Thu-Fri, June 15-16, might simplify travel to BNL for those planning to attend both
 - pre-collaboration meeting meetings/workfests (e.g. modest forward upgrade working group, MVTX consortium)
- Heads up for anyone interested in hosting the next collaboration meeting – may be possible to seek institutional support with enough advance notice! Let us know if you're thinking about this, may be ways we can help.

MAPS pre-proposal

Document finalized following LBNL workfest

Sent to DOE ONP directly by Ming Liu,
following our understanding of guidance from
ALD Berndt Mueller

DOE instead indicated that this should be
officially transmitted by BNL – and this has
now happened

There will be a BNL review of the pre-proposal
in ~mid/late spring

